

## CLAIMS

1. A method for treating tinnitus induced by cochlear excitotoxicity in a human, the method comprising administering to a human a therapeutically effective amount of a pharmaceutical composition comprising an NMDA receptor antagonist, effective to suppress or reduce NMDA receptor mediated aberrant activity of the auditory nerve in a human in need of such treatment.
2. A method for preventing tinnitus induced by cochlear excitotoxicity in a human, the method comprising administering to a human a therapeutically effective amount of a pharmaceutical composition comprising an NMDA receptor antagonist, effective to prevent NMDA receptor mediated aberrant activity of the auditory nerve in a human in need of such treatment.
3. The method of Claims 1 or 2 wherein the NMDA receptor antagonist is selected from the group consisting of ketamine, 7-chlorokynurenate, D-AP5, MK 801 and gacyclidine.
4. The method of Claims 1 or 2 wherein the cochlear excitotoxicity is provoked by an occurrence selected from the group consisting of acoustic trauma, presbycusis, ischemia, anoxia, and sudden deafness.
5. The method of Claims 1 or 2 wherein the pharmaceutical composition is administered topically/locally via the round window membrane or the oval window membrane to the inner ear.
6. The method of Claims 1 or 2 wherein the pharmaceutical composition is administered topically/locally by means of invasive drug delivery techniques to the inner ear.
7. The method of Claim 4 wherein the cochlear excitotoxicity is characterized as acute.
8. The method of Claim 4 wherein the cochlear excitotoxicity is characterized as repeated.
9. The method of Claim 4 wherein the cochlear excitotoxicity is characterized as prolonged or chronic.